TAKEGAWA

Twin Spark Super head+R

Instruction Manual for Cylinder Set (124 cc)

Exclusively for our Twin Spark Super Head +R

Item Nos ：０１－０４－８２２４Ｖ (Cylinder kit)
：０１－０２－８２４１ (Piston kit)

- Thank you for purchasing one of our TAKEGAWA's products.
- These Piston and Cylinder kits are for exclusive use in motorcycles equipped with our TAKEGAWA-made Twin Spark Super Head+R. In using these kits, please strictly observe the following.

◎ **Please note: Illustrations and photos may vary from actual hardware.**

Please read the following instructions before installation.

◎ We do not take any responsibility for any accident or damage whatsoever arising from the use of the products not in conformity with the instructions in the manual.
◎ We shall be held free from any responsibility or compensation whatsoever for any glitch in parts other than ours if the glitch takes place after the installation and use of this product.
◎ These Piston and Cylinder kits are for exclusive use in motorcycles equipped with our TAKEGAWA-made Twin Spark Super Head+R.
◎ In case this set is to be used in a stock crankcase, the crankcase needs to be processed in the section where a sleeve is attached. Please contact your specialist shop handling internal conbustion products or a motorcycle shop nearby.
◎ Processing of a stock crank case requires detachment and installation of the engine and separation of the crank case. Please install the products correctly, referring to HONDA's genuine parts service manual for the the applicable model numbers of the motorcycles. And this assembly requires gaskets, etc., which please purchase separately.
◎ This set is for exclusive use in CDI motorcycle, but is compatible only with a stock CDI and CDI of our own make.
◎ Please be informed that we shall be held harmless against any claim against us whatsoever arising out of use of the products in racing and the like.

⚠ Caution The following show the envisioned possibility of injuries to human bodies or property damages as a result of disregarding the following cautions.

- Since this kit is designed and developed for driving in closed races, do not use the kit for running on public roads.
- Work only when the engine and the muffler are cool. (Otherwise, you will burn yourself.)
- Prepare right tools for the work, and do the work in the proper and right way.(Otherwise, improper work could cause breakage of parts or injuries to yourself.)
- As some products and frames have sharp-pointed or protruding portions, please work with greatest care. (Otherwise, you will suffer injuries.)

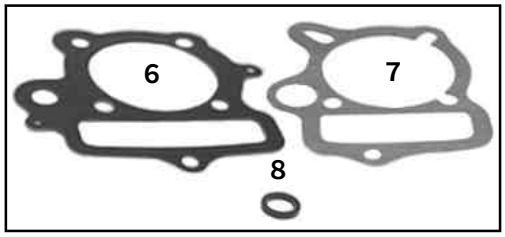
⚠ Warning The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following cautions.

- Those who are technically unskilled or inexperienced are required not to do the work. (Improper installation due to unskilled technique or lack of knowledge could lead to parts breakage and consequently to accidents.)
- Always use new piston pin circlips, gaskets and packing. (Wear and damage to these parts are likely to cause parts breakage and accidents.)
- Before doing work, place the motorcycle on level ground to stablize the position of your motorcycle for safety's sake. (Otherwise, your motorcycle could overturn and injure you while you are working.)
- If you find damaged parts when checking and performing maintenance of your motorcycle, do not use these parts any longer, and replace them with new ones. The continued use of these damaged parts as they are could lead to accidents.)
- Always start the engine in a well-ventilated place, and do not start it in an airtight place. (Otherwise, you will suffer from carbon monoxide poisoning.)
- Before riding, always check every section for slack in parts like screws. If you find slack ones, screw them up securely to the specified torque. (Or improper torque may cause parts to come off, leading to accidents.)
- When you notice something abnormal with your motorcycle while riding down a road, immediately stop riding and park your motorcyle in a safe place. (Otherwise, the abnormaility could lead to accidents.)
- As gasoline is highly flammable, never place it close to fire. Make sure that nothing flammable is near the gasoline. (Otherwise, there will be a danger of causing fires.)
- Check or perform maintenance of parts correctly according to the procedures in the instruction manual or a service manual. (Improper checking or maintenance could lead to an accident.)
- Never use any other part than the specified parts. (Otherwise, there is a possibility of parts breakage, leading to accidents.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque. (Otherwise, improper torque may result in the breakage or coming off of the bolts and nuts, leading to accidents.)
- As the accumulation of vaporized gasoline is at the high risk of explosion, work in a well-ventilated place.
- Always use high-octane gasoline. (Otherwise, troubles such as engine knocking may cause accidents.)

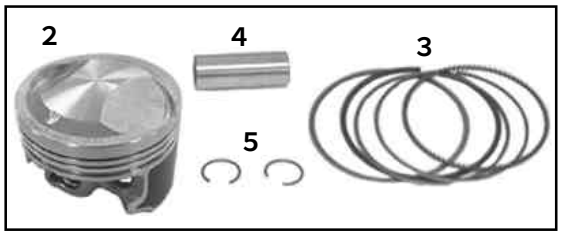
◎ Please be informed that the product specifications, design and prices are subject to change without prior notice.
◎ We shall be held free from any guarantee whatsoever of any trouble caused by the combined use of our products with parts not specified by us.
◎ This manual should be retained for future reference.

～Kit Contents～

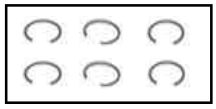
01－13－8003V



01－02－8241



00－01－0003



00－01－0090

No.	Parts Name	Qty	Repair Parts Item No.		Qty
1	Aluminum cylinder	1	54mm	01-01-0252V	1
2	Piston	1	54mm	13105-2SM-T01-LT	1
3	Piston ring set (top, 2nd, oil)	1	54mm	01-15-015	1
4	Piston pin	1	00-01-0091		1
5	Piston pin circlip	2			2
6	Cylinder head gasket	1	12251-GFL-T20		1
7	Cylinder gasket	1	00-01-0067		2
8	Rubber packing (black)	1	00-01-0066		2
9	Dowel pin, 8x12	2	00-01-0090		2
10	Dowel pin, 8x14	2			2

∴Please note that in ordering repair parts, be sure to quote the Repair Part Item No. Otherwise, we may not be able to accept your orders.
There are some parts, however, for which we are not in a position to accept your order in just the quantity to be used. In this case, please take them in the quantity packed.

※Composition and gasket shapes of the gasket kit differ depending on the kind of cylinder head and cylinder. Therefore, please always use the special gasket for the cylinder head or cylinder.

※The Piston Kit (01-02-8241) contains the parts shown in the above enclosed square with the kit No.

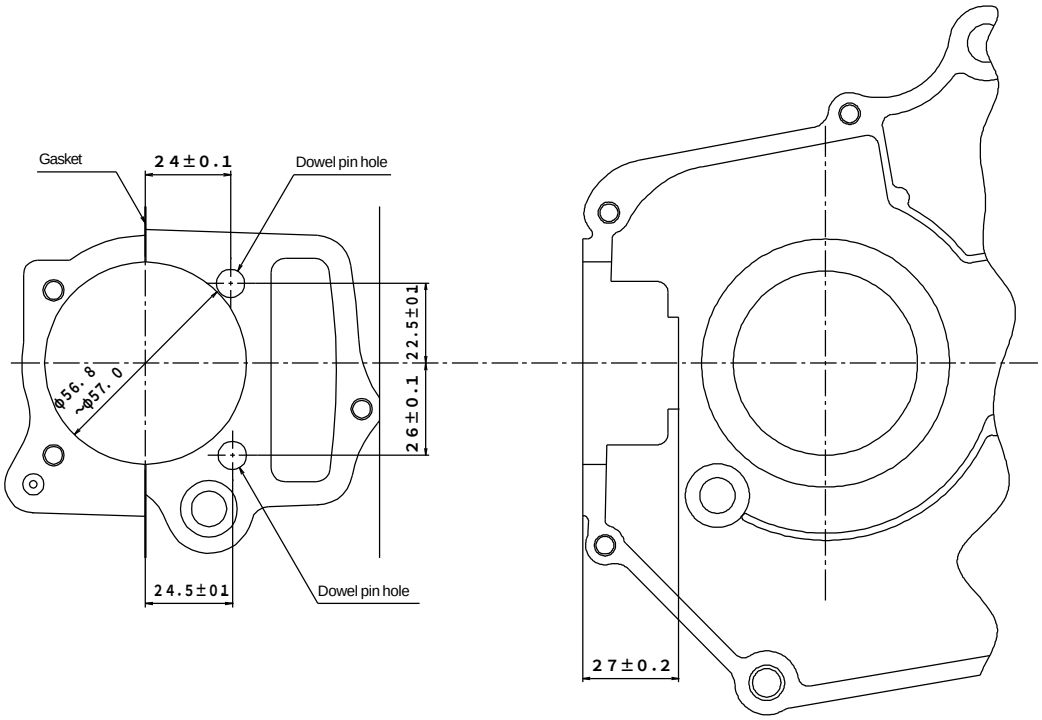
01-04-8224V (124cc) cylinder kits

Boring of a Crankcase

◇To those who ask other specialist shop than us to do the work

○ Joining the cylinders together, process the crankcase little by little until the size is φ 56.8～φ 57.0 mm with a crankcase gasket placed in between.

※ Processing of the crankcase will thin the thinkness of wall adjoining dowell pin holes. So the durability of the crankcase will be reduced, resulting in the damage of the crankcase in some cases, which please take note.



Caution

○ Since crankcase boring thins the wall thickness and reduces hardness, be careful in tightening stud bolts.

○Please take note that in some cases the crankcase may get damaged during use. Furthermore, please be informed that we shall assume no liability to users for compensation or damages whatsoever of any kind.

SPECIAL PARTS TAKEGAWA Co.,Ltd.
3-5-16 Nishikiorihigashi Tondabayashi Osaka Japan
TEL : 81-721-25-1357 FAX : 81-721-24-5059
URL : http://www.takegawa.co.jp

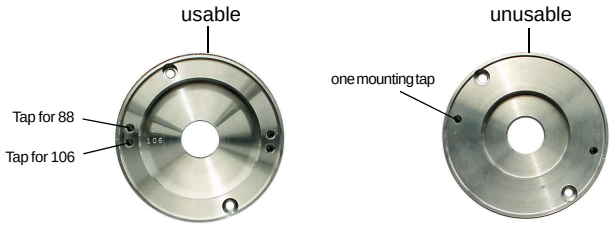
～Installation Procedures～

⚠ **Caution: Always be sure to tighten parts to the specified torque using a torque wrench.**

⚠ **Notice: The unskilled or those without proper knowledge are requested not to do the installation work.**

○The following show the products of our own make to which this kit cannot be installed.

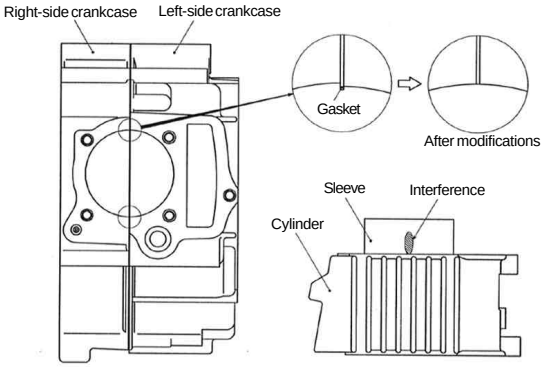
◇On the use of an old-type inner rotar CDI



○Some products involve detachment and installation of an engine and sepration of a crankcase, etc. Do the installation work infallibly, following Honda's genuine parts service manual.

○Referring to the service manual, detach the engine from the frame and disassemble it.

○ The installation of this kit entails boring process to a crankcase. Please proces the boring of the crankcase referring to the attached sheet.

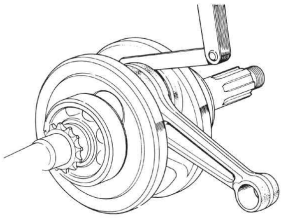


o Check every part.

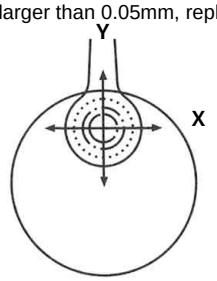
⚠Caution: Infallibly inspect every part and check consumable parts for damage and wear.

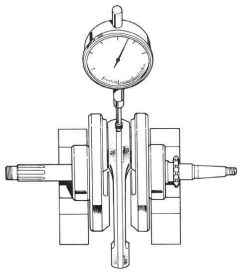
What to check:

- Measure the internal diameter at the small end of the con'rod.
  ∴ If larger than 13.03 mm, replace it.
- Measure the clearance at the big end of the con'rod in the axial direction.
  ∴ If larger than 0.6mm, replace it.

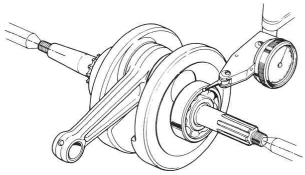


- Measure the misalignment at two points at the big end of the con'rod at right angles to the shaft as shown in the figure on the right.
  ∴ If larger than 0.05mm, replace it.

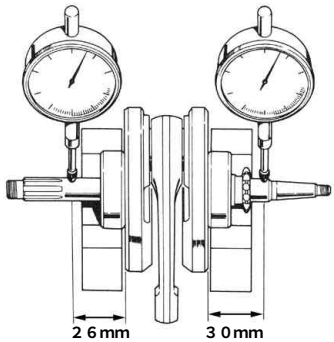




- Measure the misalignment on the journal bearing of the crank shaft.
  ∴ Shaft direction:If larger than 0.10 mm, replace it.
  Bearing direction: If larger than 0.05 mm, replace it.



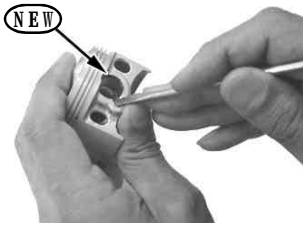
- Measure the deflection of the crank shaft.
  ∴ If larger than 0.10 mm, replace it.



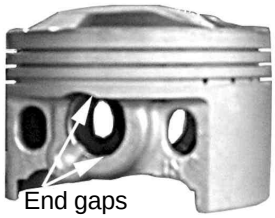
o Assemble the crankcase referring to the service manual.

～Cylinder Installation Procedures～

○ Attach a piston pin circlip to one of two pin holes on the piston.



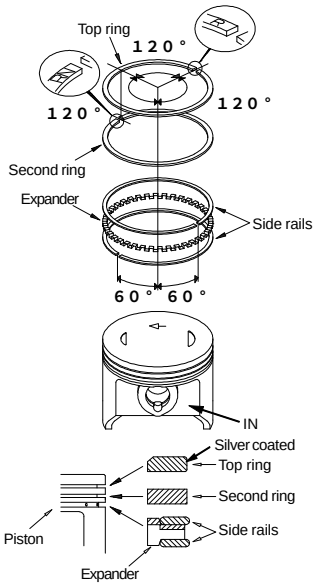
○Attach the piston pin circlip so the ring end gap does not meet with the notch on the piston pin hole, and it should be either on the top or at the bottom of the piston as illustrated in the fig. 1 below.



○ Air-blow the piston rings and the piston pin, and check for jamming of any foreign material by these parts.

○Apply engine oil to grooves for piston rings, and, with reference to the figure below, fix piston rings and arrange the location of piston ring end gaps.

※ A ring with a silver-coated side is a top ring. Do not make mistakes in choosing the right rings.



Pay attention to the cross section as well ! !

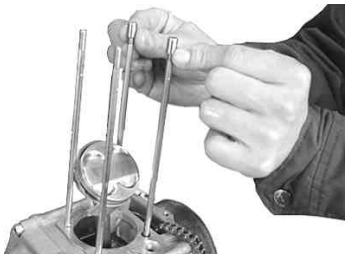
○ Apply molybdenum solution to the piston pin and the holes on the connecting rod small end.

○ Install the piston to the connecting rod so the IN mark on the piston faces the intake side.

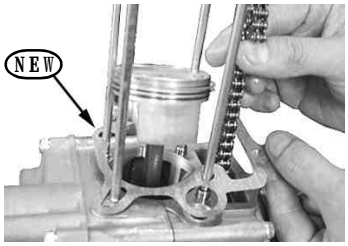
○Plug the sleeve hole and the cam chain hole on the crankcase with a clean cloth, and fix a piston pin circlip.

○Remove the cloth used to plug holes.

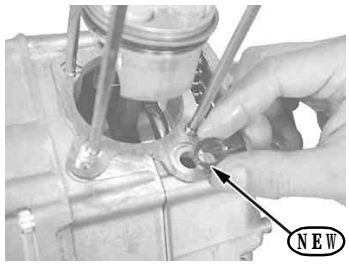
○ Degrease the cylinder base of the crankcase, and fix 8x12 dowel pins onto the dowel pin holes.



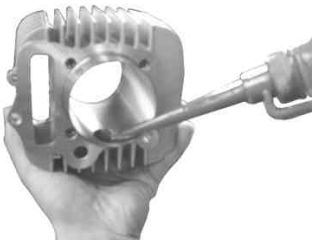
○ Fix a cylinder gasket of the kit into the cylinder base of the crankcase.



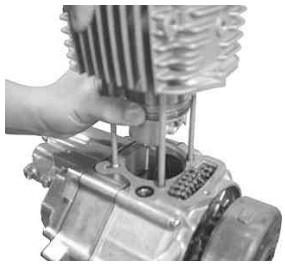
○ Fix a new rubber packing (black) of the kit onto the oil-return hole on the cylinder base of the crankcase.



○ Apply engine oil to the entire inner surface of the aluminum cylinder bore.



○Insert the aluminum cylinder into the stud bolts.

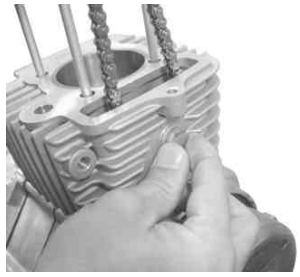


○ Compressing the piston rings, install the cylinder with care not to move the piston-ring end gaps out of place. Their end gaps will not be out of place.

⚠CAUTION: Be careful not to damage the piston rings.

○ Place the cam chain guide roller on the cam chains.

○ Loosely tighten the cam chain guide roller and the cylinder side bolt.



○Loosely tighten an original hex bolt which holds the crankcase on the cylinder side.

○ Install the cylinder head with reference to the instruction manual.